

20. ON SKIN SLOUGHING OF KING COBRAS, *OPHIOPHAGUS HANNAH* (CANTOR) IN CAPTIVITY

It is well known that snakes shed their skin at intervals which vary according to species, age, season and perhaps sex. But, perusal of the available literature (Deoras 1965; Gowda 1963 and Misra *et al.* 1976) did not reveal much information on the frequency of skin sloughing in King Cobras, *Ophiophagus hannah* (Cantor). This note, records some observations on sloughing of King Cobras in Captivity.

Two female King Cobras of Nandankanan Biological Park, Orissa, India, housed in a spacious semi-outdoor enclosure having a floor space of approximately 36 square metres; height 1.5 metres, were kept under observation for a period of 25 months from 1.ii.1975 to 7.iii.1977. In the Park, the King Cobras are offered freshly killed non-poisonous snakes such as *Ptyas mucosus* (Linn.) and *Xenochrophis piscator* (Schneider) once a week but the food intake is much reduced during cooler months.

OBSERVATIONS

At the beginning of observations, the two King Cobras measured 244 cm (Weight 1.57 kg) and 260 cm (Weight 1.67 kg) and 267 cm (Weight 2.43 kg) respectively on 1.i.1977. Both were therefore adults during the observation and little growth was observed.

The data summarised in Table I indicate that the King Cobras sloughed 21 and 20 times respectively during the 25 months period. Sloughing has been observed in all months except January. The process of shedding was completed in one, two and three consecutive days, beginning from the tip of the nose. During sloughing the skin of the head region with

eye caps intact or broken was shed along with the skin of the rest of the body. The data indicate sloughing is more frequent during the period May to mid-November (hot and wet season) than in the cooler months. The inter-sloughing period in the first snake varied from 17 to 104 days with an average of 35.70 days and in the second from 17 to 84 days with an average of 35.60 days. The inter-sloughing period averaged 25.80 and 28.40 days respectively for the two snakes between May and mid-November (15 and 14 observations on each snake) as against averages of 65.40 and 55.80 days respectively for the two snakes during the period from mid-November and April (5 observations on each snake).

As is usual with other snakes, before sloughing, the body colour of king cobras becomes dull and the white stripes on the back become faint. A milky white opaque covering forms over the eyes. At this stage they cannot see well, remain inactive and generally refuse food. Soon after sloughing the eyes become clear, the body colour looks brighter, the animals become active and readily accept food.

DISCUSSION

Misra *et al.* (loc. cit.) observed that a King Cobra shed its skin thrice in June, September and October during a period of 7 months from June, 1973 to December, 1973. They could not observe any sloughing in two other King Cobras during the months of November, 1974, December, 1974 and January, 1975.

According to Gowda (loc. cit.) King Cobras in captivity go on shedding their skins frequently and after each discard a layer will form like a cap on the eyes and as they are

MISCELLANEOUS NOTES

TABLE 1

DETAILS OF SKIN SLOUGHING OBSERVED IN TWO KING COBRAS

Dates of last Sloughing.	Dates of Subsequent Sloughing.	Inter-Sloughing period in days.	Dates of last Sloughing.	Dates of Subsequent Sloughing.	Inter-Sloughing period in days.
<i>Specimen No. I</i>			<i>Specimen No. II</i>		
21.2.75 to			5.3.75 to		
22.2.75	27.4.75	63	6.3.75	15.5.75	69
27.4.75	26.5.75	28	15.5.75	2.6.75	
26.5.75	20.6.75	24	2.6.75	30.6.75 to	
				2.7.75	27
20.6.75	8.7.75 to		30.6.75 to		
	9.7.75	17	2.7.75	28.7.75	25
8.7.75 to					
9.7.75	1.8.75	22	28.7.75	28.8.75	30
1.8.75	31.8.75	29	28.8.75	19.9.75	21
31.8.75	29.9.75	28	19.9.75	15.10.75	25
29.9.75	22.10.75 to				
	23.10.75	22	15.10.75	11.11.75	26
22.10.75 to	18.11.75 to		11.11.75	25.12.75 to	
23.10.75	20.11.75	25		27.12.75	43
18.11.75 to	30.12.75 to		25.12.75 to	21.2.76 to	
20.11.75	31.12.75	39	27.12.75	22.2.76	55
30.12.75 to	4.3.76 to		21.2.76 to	22.3.76 to	
31.12.75	5.3.76	63	22.2.76	24.3.76	28
4.3.76 to			22.3.76 to	7.5.76 to	
5.3.76	3.5.76	58	24.3.76	9.5.76	43
3.5.76	1.6.76	28	7.5.76 to	23.6.76 to	
			9.5.76	24.6.75	44
1.6.76	4.7.76	32	23.6.76 to	13.7.76 to	
			24.6.76	14.7.76	18
4.7.76	1.8.76	27	13.7.76 to		
			14.7.76	5.8.76	21
1.8.76	23.8.76	21	5.8.76	9.9.76	34
23.8.76	18.9.76	25	9.9.76	5.10.76 to	
				6.10.76	25
18.9.76	18.10.76 to		5.10.76 to	17.11.76 to	
	20.10.76	29	6.10.76	18.11.76	41
18.10.76 to			17.11.76 to	11.2.77 to	
20.10.76	20.11.76	30	18.11.76	12.2.77	84
20.11.76	5.3.77	104	11.2.77 to		
			12.2.77	—	—

adhesive these layers are generally not removed along with the skin. He further states that these caps are to be removed with the help of forceps and a scalpel and attributed the causes to unnatural conditions in captivity such as lack of ponds, drains, thorny bushes, and rough narrow crevices etc. in their enclosure. This condition is not observed in the Park's specimens because they have been provided with suitable housing to cast off their skin in the natural process. To achieve this, rockeries with irregularly projecting stones, bushes, holes, dry tree trunks, rough stony wall and a big water pond to swim about have been provided inside the King Cobra enclosure.

Deoras (loc. cit.) states that the snakes

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slough more frequently in the summer and less during cooler season and the periodicity of sloughing ranges from 72 to 210 days. Regular sloughing of skin is considered as a sign of good health among snakes.

The observations on growth further suggest that the King Cobras grew 6 to 7 cm only during a period of two years. This suggests that the growth of King Cobras in later part of their lives is very slow especially in captivity.

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